

AMENDMENTS TO THE CLAIMS

1. (Original) A pump insert to be located within a pump casing and having an inner surface which in use defines a portion of a pump volute, wherein said pump insert is adapted to be coupled with a pump casing by an inter-engaging profiled coupling arrangement, and wherein said pump insert, in use, is adapted to secure a pump casing closure element between the pump insert and the pump casing.

2. (Original) A pump insert as claimed in claim 1, wherein a portion of the pump insert is adapted to be secured against a portion of the pump casing closure element.

3. (Currently Amended) A pump insert as claimed in claim 1 ~~or 2~~, wherein the pump insert is adapted to be clamped between the pump casing and the pump casing closure element during assembly of the pump.

4. (Currently Amended) A pump insert as claimed in claim 1, ~~2 or 3~~, wherein the pump insert is adapted to be clamped between a pump liner and the pump casing closure element.

5. (Currently Amended) A pump insert as claimed in claim 1, ~~2, 3 or 4~~, wherein the pump casing closure element is locatable about the pump shaft.

6. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the closure element is locatable directly between the pump insert and the pump casing.

7. (Currently Amended) A pump insert as claimed in ~~any one of claims 1 to 5~~ claim 1, wherein the closure element is locatable between the pump insert and a pump casing adaptor plate, wherein the pump casing adaptor plate is secured to the pump casing.

8. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump insert is adapted to be coupled directly with the casing by the inter-engaging profiled coupling arrangement.

9. (Original) A pump insert as claimed in claim 7, wherein the pump insert is adapted to be coupled with the pump casing adaptor plate by the inter-engaging profiled coupling arrangement.

10. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump closure element defines a portion of a pump shaft sealing arrangement.

11. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump insert is firmly secured with the pump casing by the inter-engaging profiled coupling arrangement.

12. (Currently Amended) A pump insert as claimed in ~~any one of claims 1 to 10~~ claim 1, wherein the pump insert is adapted to be loosely coupled with the pump casing by the

inter-engaging profiled coupling arrangement, and the pump insert adapted to be firmly secured in place within the pump casing when the pump is fully assembled.

13. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the inter-engaging profiled coupling arrangement comprises at least one coupling element connected to the pump insert and at least one coupling element connected to the pump casing, wherein the respective coupling elements are complementary and are adapted to be engaged to couple the pump insert with the pump casing.

14. (Original) A pump insert as claimed in claim 13, wherein the coupling elements are complementary teeth.

15. (Original) A pump insert as claimed in claim 14, wherein one coupling element is a tooth, and the other coupling element is a complementary slot adapted to receive the tooth.

16. (Currently Amended) A pump insert as claimed in claim 13, ~~14 or 15~~, wherein a plurality of coupling elements are provided.

17. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 16~~ claim 13, wherein the coupling elements of the pump insert are integrally formed therewith.

18. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 16~~ ~~claim 13~~, wherein the coupling elements of the pump insert are formed separately of and subsequently connected to the pump insert.

19. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 18~~ ~~claim 13~~, wherein the coupling elements of the pump casing are integrally formed therewith.

20. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 18~~ ~~claim 13~~, wherein the coupling elements of the pump casing are formed separately and subsequently connected to the pump casing.

21. (Original) A pump insert as claimed in claim 20, wherein the coupling elements of the pump casing are integrally formed with a pump casing adaptor plate with the adaptor plate being secured to the pump casing.

22. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 21~~ ~~claim 13~~, wherein the coupling elements of both the pump insert and the pump casing are located on and extend from a respective element support surface of the pump casing and pump insert.

23. (Original) A pump insert as claimed in claim 22, wherein the coupling elements of the pump casing and the pump insert extend from their respective element support surface in a radial direction.

24. (Currently Amended) A pump insert as claimed in claim 22 or 23, wherein the coupling elements of the pump casing pump insert extend in opposite radial directions from the respective element support surfaces.

25. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 24~~ claim 13, wherein each coupling element of the pump insert is adapted to slidably engage a respective coupling element of the pump casing.

26. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 25~~ claim 13, wherein each coupling element of the pump insert includes an engaging surface adapted to engage a corresponding engaging surface of a respective coupling element of the pump casing.

27. (Original) A pump insert as claimed in claim 26, wherein each engaging surface of each coupling element of the pump casing and pump insert defines a wedge profile.

28. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 27~~ claim 13, wherein the pump insert is coupled with the pump casing by rotationally misaligning the coupling elements of the pump insert and the pump casing, bringing together the pump insert and pump casing, and rotating the pump insert with respect to the pump casing to cause sliding engagement of the coupling elements of the pump casing and pump insert respectively.

29. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 27~~ ~~claim 13~~, wherein the coupling elements of the pump insert is engaged with the coupling elements of a pump casing adaptor plate, which adaptor plate subsequently being secured to the pump casing.

30. (Currently Amended) A pump insert as claimed in ~~any one of claims 13 to 27~~ ~~claim 13~~, wherein the coupling elements of the pump casing and pump insert are rotationally aligned, as required, with the pump casing and pump insert being brought together in the required fashion to engage the coupling elements.

31. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump insert comprises an annular portion and a cylindrical portion, wherein the cylindrical portion extends substantially perpendicular from an outer surface of the annular portion.

32. (Currently Amended) A pump insert as claimed in claim 31 ~~when dependent on~~ ~~claim 22, wherein the interengaging profiled coupling arrangement comprises at least one coupling element connected to the pump insert and at least one coupling element connected to the pump casing, wherein the respective coupling elements are complementary and are adapted to be engaged to couple the pump insert with the pump casing, the coupling elements extending from a respective element support surface of the pump casing and pump insert, wherein the cylindrical portion defines the coupling element support surface of the pump insert.~~

33. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump insert is adapted for use on both lined and unlined pumps.

34. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the inter-engaging profiled coupling arrangement is a bayonet type fitting.

35. (Currently Amended) A pump insert as claimed in ~~any preceding~~ claim 1, wherein the pump insert is adapted for use with a centrifugal pump.

36. (Original) A method of assembling a portion of a pump including, at least, a casing having a coupling element, a pump insert having a complementary coupling element, and a pump casing closure element, said method comprising the steps of:

locating the pump casing closure element between the casing and the pump insert;
aligning the coupling element of the pump insert with the coupling element of the pump casing; and

causing relative rotational motion of the pump insert and the casing to cause the complementary coupling elements to engage and couple the pump insert with the casing and secure the pump casing closure element therebetween.

37. (Original) A method of assembling a portion of a pump as claimed in claim 36, wherein the pump insert is loosely coupled with the pump casing by engagement of the coupling elements.

38. (Currently Amended) A method of assembling a portion of a pump as claimed in claim 36 or 37, wherein the method comprises the steps of:

locating the pump casing closure element between the pump insert and a pump casing adaptor plate; and

aligning the coupling elements of the pump insert with complementary coupling elements of a pump casing adaptor plate and rotating the pump insert with respect to the adaptor plate to cause the coupling elements to engage, wherein the adaptor plate is subsequently secured to the pump casing.

39. (Currently Amended) A method of assembling a portion of a pump as claimed in claim 36, 37 or 38, wherein the closure element is located between the casing and the pump insert when used in a lined pump having a split casing, such that the method involves the steps of locating a first portion of a pump casing about a shaft, locating a closure element and a pump insert about the shaft with the closure plate located between the pump insert and pump casing, and engaging the complementary coupling elements to couple the pump insert with the casing first portion and secure the closure element between the pump insert and casing.

40. (Original) A method of assembling a portion of a pump as claimed in claim 39, wherein the closure element is loosely secured between the pump insert and the casing.

41. (Currently Amended) A method of assembling a portion of a pump as claimed in claim 39 or 40, wherein the method further comprises the steps of locating a pump liner within the first portion of the casing and against the pump insert, and securing a second portion of the

casing to the first portion such that the liner is forced against the pump insert resulting in the coupling elements being at least partially separated and the pump insert being clamped between the liner and the closure element, and the closure element being clamped between the pump insert and the first portion of the pump casing.

42. (Currently Amended) A method of assembling a portion of a pump as claimed in claim 36, ~~37 or 38~~, wherein the closure element is located between a pump casing adaptor plate and the pump insert when used in an unlined pump, such that the method involves the steps of locating the adaptor plate about a pump shaft, locating the closure element and the pump insert about the pump shaft with the closure element being located between the adaptor plate and the pump insert, and engaging the complementary coupling elements to couple the pump insert with the adaptor plate and secure the closure element between the pump insert and adaptor plate.

43. (Original) A method of assembling a portion of a pump as claimed in claim 42, the method further comprises the step of securing a pump casing to the adaptor plate such that the closure element forces the pump insert against the casing resulting in the coupling elements being separated and the pump insert being clamped between the casing and the closure element, and the closure element being clamped between the pump insert and the pump casing adaptor plate.

44. (Original) A pump closure assembly comprising:

a pump insert located about a pump shaft and coupled with a pump casing by an inter-engaging profiled coupling arrangement, wherein an inner surface of the pump insert defines a portion of a pump volute; and

a pump casing closure element located about the pump shaft and secured between the pump insert and the pump casing when said pump insert and pump casing are coupled together by the inter-engaging profiled coupling arrangement.

45. (Original) A pump closure assembly as claimed in claim 44, wherein the closure

element is directly secured between the pump insert and the pump casing.

46. (Original) A pump closure assembly as claimed in claim 44, wherein the closure

element is secured between the pump insert and a pump casing adaptor plate which is adapted to be secured to the pump casing.

47. (Original) A pump comprising:

a pump casing;

a pump insert located within the pump casing and having an inner surface which in use defines a portion of a pump volute, wherein said pump insert is adapted to be coupled with a pump casing by an inter-engaging profiled coupling arrangement; and

a pump closure element secured between the pump insert and the pump casing.

48. (Currently Amended) A pump as claimed in claim [[49]] 47, wherein the closure element is directly secured between the pump insert and the pump casing.

49. (Original) A pump as claimed in claim 47, further comprising a pump casing adaptor plate adapted to be secured to the pump casing, wherein the pump insert is adapted to be coupled with the adaptor plate by the inter-engaging profiled coupling arrangement with the pump closure element secured therebetween.

50. (Original) A pump insert having an inner surface which in use defines a portion of a pump volute, wherein said pump insert is adapted to be coupled with a pump casing adjacent a suction branch thereof by an inter-engaging profiled coupling arrangement.

51. (Original) A pump insert as claimed in claim 50, wherein the pump insert provides a flow path between the suction branch of a pump casing and a pump impeller.

52. (Currently Amended) A pump insert as claimed in claim 50 ~~or 51~~, wherein a portion of the pump insert is adapted to be secured against a pump casing closure element.

53. (Original) A pump insert as claimed in claim 52, wherein the pump casing closure element defines a portion of a pump suction branch sealing arrangement.